

Date: Tue, 18 May 93 21:06:14 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #603
To: Info-Hams

Info-Hams Digest Tue, 18 May 93 Volume 93 : Issue 603

Today's Topics:

171A Tubes; Who Used them?
1 xtal synth cb conversion?
ARRL Bulletin 55 ARLB055
BULLETIN: Monthly Reports & Note to Users of Ionospheric Data
Buy back 11 Meters
DJ-580 Coverage
Don't get ripped off by a G5RV
FoxTango Corp??
G5RV Antenna (My opinion)
Icom 2410 TX Mod Wanted
Info request on RCI-2950 and/or RCI-2970
TSARC -- New Address
What is circular polarization? (2 msgs)

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 18 May 93 22:56:32 GMT
From: news-mail-gateway@ucsd.edu
Subject: 171A Tubes; Who Used them?
To: info-hams@ucsd.edu

Pete-

Your description reminded me of the WE717A tubes that I
have. These have very flattened (doorknob shaped) bulbs
mounted on metal shell octal bases. These tubes are
pentodes which have characteristics similar to the

6AK5. I have an old Western Electric IF strip with 5 or 6 of these, I think at 60 Mhz. I recall a description of these tubes somewhere in one of the volumes of the MIT Radiation Lab Series, originally published around 1945 or 1948, in 28 volumes. Fortunately, the last volume is a complete index. The Rad Lab Series is a gold mine of information on WWII (now surplus boatanchor) radar equipment and also still valuable theory.
Jeff Furman, KD6MNP JFurman@spa.mhs.compuserve.com

Date: Tue, 18 May 1993 19:15:18 GMT
From: usc!sdd.hp.com!hpscit.sc.hp.com!cupnews0.cup.hp.com!news1.boi.hp.com!hp-pcd!hplsla!dickrb@network.UCSD.EDU
Subject: 1 xtal synth cb conversion?
To: info-hams@ucsd.edu

Greetings -

I too have modified the Sears Road-talker CB rigs for 10 and 6 meters. It was an inexpensive way to get a reasonable low-power six meter rig using the existing crystals and the 'sum' mixing product instead of the 'difference'.

The output was limited to about 2 watts on 6-meters. I replaced the rotary freq-select switch and installed a small multi-line DIP switch to set the frequency.

73 - w7wkr

Date: 18 May 93 10:13:27 EDT
From: world!ksr!jfw@decwrl.dec.com
Subject: ARRL Bulletin 55 ARLB055
To: info-hams@ucsd.edu

bulletin@n8emr.cmhnet.org (Automatic packet bulletin poster) writes:
>An administrator must enter into a written agreement with the FCC
>and public notices will be issued listing the administrators. To be
>an administrator, the organization must exist for the purpose of
>furthering the amateur service. Its membership must include at
>least one percent of the amateur operators licensed by the FCC,

So, out of curiosity, how many organizations qualify? That's, what, 5000 members? I assume there's more than one organization with that many members,

so this probably isn't a sneaky way of making the ARRL the only special
callsign administrator.

Date: 18 May 93 20:53:46 GMT
From: news-mail-gateway@ucsd.edu
Subject: BULLETIN: Monthly Reports & Note to Users of Ionospheric Data
To: info-hams@ucsd.edu

/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\

ADMINISTRATIVE BULLETIN

18 May, 1993

Note to Users of the Ionospheric Data
Monthly Reports for April Now Available

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NOTE TO USERS OF THE IONOSPHERIC DATA

Over the last couple of months, there have been changes to the structure of the daily reports of ionospheric data. We are now providing M(3000)F2, FMIN, Es, foF2, MUF(3000)F2, and TEC data in our daily reports.

At the end of each month, we compile all of the updated and accumulated ionospheric data, and archive the information into monthly archive files. Formerly, we produced an individual TEC report exclusively summarizing ionospheric total electron content. This has changed. The TEC data is now integrated in with the rest of the ionospheric data when the monthly archives are compiled. You can therefore obtain a complete set of values for most of the critical ionospheric parameters in a single monthly archive file.

The daily ionospheric reports are made available for anonymous FTP from: XI.ULETH.CA (IP number 142.66.3.29) in the directory "pub/solar/Iono". Note that the reports in this directory are NOT updated with new data as it becomes available. This may be implemented sometime in the future. However, for now, only the initial daily reports are provided therein. At the end of each month, the files in "pub/solar/Iono" are deleted and the archive file for that month is provided in the directory "pub/solar/1993" under the filenames "iono-xxx.[zip][zoo][tar.Z]", where xxx is replaced with the first three characters of the month (ex. iono-apr.zip).

Those who require full and relatively contiguous ionospheric data are encouraged to use the monthly archive reports as opposed to the initial daily

reports. Those who require ionospheric data on a regular timely basis are encouraged to request access to our e-mail distribution list from: Oler@Rho.Uleth.CA, or COler@Solar.Stanford.Edu.

MONTHLY REPORTS FOR APRIL ARE NOW AVAILABLE

The monthly reports for April 1993 are now available through anonymous FTP at the site: "XI.ULETH.CA" (IP number 142.66.3.29) in the directory "pub/solar/1993". The files to grab are:

sgdb-apr.[zip][zoo][tar.Z] - Archive of April Solar & Geophysical Data

iono-apr.[zip][zoo][tar.Z] - Archive of Ionospheric Data for April 1993

aprflr.doc - Monthly Report of Solar Energetic Events

aprrvw.doc - Monthly Review of Solar & Geophysical Activity

** End of Bulletin **

Date: 18 May 1993 22:14:25 GMT
From: sdd.hp.com!hpscit.sc.hp.com!news.dtc.hp.com!col.hp.com!csn!
news.sinet.slb.com!news.San-Jose.ate.slb.com!jones@network.UCSD.EDU
Subject: Buy back 11 Meters
To: info-hams@ucsd.edu

dube@cpdvax.CSc.ti.COM wrote:

: Eric KB6LUY suggested buying the 11-meter band. At first blush it's
: a pleasant thought. However, what to do with the current occupants??
: We seem to be having enough trouble keeping them off the 10-meter
: band. Can you imagine what it would be like to run them off "their"
: band??? It's one of those good ideas that is impractical (if not
: impossible) to achieve.

:

: 73,

: Dube AB5AP <dube@cpdvax.csc.ti.com>

I can't resist this: Not really impossible or even impracticable. Just restrict it to "only digital" modes with transmitters of _not less than_ say, 500 watts PEP. Methinks that the average CB'er would listen to packet about as long as the average obscene-phone-caller likes to listen to my land-line modem (BTW, having the modem answer is a great way to stop a string of obscene or annoyance phonecalls).

If we enforced the above rules for, say, the first 5 or 10 years, I suspect that most of the CB rigs would get scrapped...

73,
Clark

--

Disclaimer: The opinions expressed above are mine and not those of Schlumberger because they are NOT covered by the patent agreement!

Phone: (602) 345-3638 Internet: jones@sj.ate.slb.com
Packet: N7RPQ@K7BUC.AZ.USA.NA RF: N7RPQ
Snail: Clark Jones, Schlumberger Technologies, 7855 S. River Pkwy #116, Tempe,
AZ 85284-1825

Date: Tue, 18 May 93 16:05:27 EDT
From: usc!howland.reston.ans.net!zaphod.mps.ohio-state.edu!malgudi.oar.net!
wariat.org!wariat.org!dreaml!jga@network.UCSD.EDU
Subject: DJ-580 Coverage
To: info-hams@ucsd.edu

Cecil_A_Moore@ccm.hf.INTel.COM (Cecil A Moore) writes:

| Bruce, my DJ-580 is unlocked on both receive and transmit. It receives
| 108-143 MHz AM but it will not transmit AM. It does transmit FM on
| 130-174 and 400-520 MHz (into a dummy load, of course)...Cecil...KG7BK
| ^^^^^ ^^^^

You mean the stock 'antenna', right?

-j

--

Jon Anhold N8USK Dreamland Network Systems
(jga@dreaml.wariat.org):Internet Cleveland, Ohio 44116
(n8usk@n8usk.ampr.org):TCP/IP AMPR TCP/IP Mailbox on 144.97
(n8usk@n8jnr.#neoh.oh.usa.noam):AX.25 AMPR connect/telnet to 'n8usk'
 ** Packet<->Internet Gateway soon to come! **

Date: Wed, 19 May 1993 00:46:14 GMT
From: pa.dec.com!nntpd2.cxo.dec.com!nuts2u.enet.dec.com!little@decwrl.dec.com
Subject: Don't get ripped off by a G5RV
To: info-hams@ucsd.edu

gary@ke4zv.uucp (Gary Coffman) writes:

>In article <1993May17.214122.22853@nnnpd2.cxo.dec.com> little@nuts2u.enet.dec.com
(nuts2u::little) >>

>>The SWR as measured at the transmitter will be less than 3:1 *because* of
>>the resistive losses in the coax. So although the SWR seems reasonable,
>>it's only because you are heating the coax feed line.

>

>Let's look at this a little more carefully. At 14 MHz, RG-58 has a loss
>of 1.7 db per 100 feet, so the coax on the G5RV will have a loss of about
>0.8 db. (Roughly 60 feet of coax and 38 feet of open wire line) According
>to the VSWR chart in the Handbook (pg 16-15), to wind up with less than 3:1
>VSWR at the transmitter, the antenna VSWR must be less than 3.8:1 for a cable
>of this loss. To get less than 3:1 at the transmitter with an antenna VSWR of
>100:1, it would require a cable with 4 db of loss, or 6.6 db per 100 foot.
>Even RG-174 is better than that at 14 MHz.

>

>Coax cable loss is generally low enough at HF that VSWR losses aren't
>significant. A VSWR of 3:1 only gives an additional 0.4 db of loss for
>RG-58 over it's nominal 0.7 db per 50 foot matched case loss. A VSWR of
>20 only gives an additional loss of 3.8 db. That's noticable, but since
>most people use far more power than is required at HF, it's probably not
>significant. If you start with RG-8, 0.3 db for 50 feet at 14 MHz, then
>even a 20:1 VSWR only gives an additional loss of 2.5 db, and a 3:1 VSWR
>only results in an additional loss of 0.23 db. That's nothing to be concerned
>about.

True a low loss coax and high SWR aren't a cause for great concern, but
let's look at specific examples in reference to the claim that the G5RV
has low SWR.

Simply applying a Smith chart to a 102' center fed piece of wire with a
34' piece of 75 ohm twin lead, yields the following terminal impedances:

Band Frequency Antenna Impedance Terminal Impedance

80m	3.7 MHz	36 - j300	1.5 - j50
40m	7.2 MHz	473 + j919	1.5 - j7
15m	21.2 MHz	57 - j90	22 + j16
10m	28.5 MHz	114 - j433	38 + j230

Also from the Smith chart, the SWR on a piece of 50 ohm coax terminated
into the above resistances yields:

Band Frequency Terminal Impedance SWR

80m	3.7 MHz	1.5 - j50	> 40:1
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40m 7.2 MHz 1.5 - j7 > 40:1
15m 21.2 MHz 22 + j16 2.6:1
10m 28.5 MHz 38 + j230 > 40:1

So to get an SWR reading of 3:1 or less on 80, 40, and 10, the feedline loss must be about 3 dB, or half the power is going to heat the coax. It may be higher but my Smith chart rapidly goes from an SWR of 40:1 to infinity:1 in a small distance. All of those impedances except the 15 meter one end up very close to the edge of the Smith chart. For those claiming 1.5:1, their feedline losses must be around 7 dB.

Or does the G5RV have some magical property that defies transmission line theory?

73,
Todd
N9MWB

Date: Tue, 18 May 1993 20:41:07 GMT
From: swrinde!cs.utexas.edu!zaphod.mps.ohio-state.edu!howland.reston.ans.net!
usenet.ins.cwru.edu!magnus.acs.ohio-state.edu!bgsuvax!att!cbnewsc!
cmd@network.UCSD.EDU
Subject: FoxTango Corp??
To: info-hams@ucsd.edu

I'm looking for the phone number and/or address for Fox Tango Corp. I understand that they sell parts and accessories for Heath equipment..... Like an upgrade kit for the SB104A front end and a 400 Hz CW filter for same. I thought they might have adds in QST, but I could find none in the last 15 months.
TNX de Craig KB9HCQ work: 708-979-0059 home: 708-293-5739

Date: Tue, 18 May 1993 17:17:43 GMT
From: swrinde!cs.utexas.edu!convex!news.utdallas.edu!corpgate!brtph560!nrtpa038!
harp@network.UCSD.EDU
Subject: G5RV Antenna (My opinion)
To: info-hams@ucsd.edu

I think a G5RV is a poorly shielded air cooled dummy load with bad SWR.

(I know nobody asked me!)

* Alan Harp K4PB * Bell-Northern Research * CW FOREVER *
* mail: harp@bnr.ca * Research Triangle Park, NC * *

Date: 19 May 1993 01:24:33 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!wupost!gumby!
destroyer!vela.acs.oakland.edu!argo.acs.oakland.edu!SDKU0@network.UCSD.EDU
Subject: Icom 2410 TX Mod Wanted
To: info-hams@ucsd.edu

Could someone please send me the mods (transmit) for the Icom 2410.
I already have the 800 MHz and extended receive mod but I need the
extended transmit modification.
Please send via Email.

Thanks in advance,

--

Steve Kuo, N80PH, sdkuo@oakland.edu

Date: Tue, 18 May 1993 21:43:24 GMT
From: usc!cs.utexas.edu!csc.ti.com!tilde.csc.ti.com!fstop.csc.ti.com!
linnig@network.UCSD.EDU
Subject: Info request on RCI-2950 and/or RCI-2970
To: info-hams@ucsd.edu

I have a 2950.

One warning... the first one from the store was not good...

The transmit audio sucked... no one could understand me. I finally got my
home hf rig and sent test messages to myself via tape recorder to check it
out... all garbled (I twiddled both the mic gain and power controls to no
good). I sent it back and got another one.

The replacement worked fine. I worked New Zealand a couple of times mobile in
Texas.

I noticed the ARRL test lab report gave the transmit side a thumbs down
(perhaps they got one like mine).

BTW, there are mods to enable "cb mode" which allows receive (and xmit) on 11
meters. The display show CH 19 instead of 27.xxx. I like listening at night,
on road trips, when 10 meters is dead.

If I had it to do over again I'd try to find a Uniden (for the same price).

-- Mike, N5QAW

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-----+-----+
Mike Linnig, Texas Instruments Inc. | 97.43% of all statistics are made |
Phone: (214) 575-3597 TI MSG: BLIP | up; most of them (83.6 percent) |
Internet: mike.linnig@dseg.ti.com | are wrong. |
-----
```

Date: Tue, 18 May 1993 16:51:26 GMT
From: panix!kb7uv@nyu.arpa
Subject: TSARC -- New Address
To: info-hams@ucsd.edu

Please use this address for all TSARC correspondence:

TSARC
PO Box 1356
West Babylon, NY 11704-1356

You should receive a "QSL" from the Council's secretarial service including a tracking number, and indicating to whom your correspondence has been forwarded for action.

Be sure to make a note of the tracking number and include it on all correspondence regarding the same issue.

73, Andrew Funk, KB7UV
President, TSARC (read: unlucky victim :-) !!)

--

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----- Andrew Funk, KB7UV -----
| Chair, Radio Amateur Telecommunications Society (RATS) |
| ENG Editor/Microwave Control, WCBS-TV Channel 2 News, New York |
| Internet: kb7uv@panix.com Packet: kb7uv@kb7uv.#nli.ny.usa |
-----
```

Date: Tue, 18 May 1993 20:53:35 GMT
From: spsgate!mogate!newsgate!sauron!smith@uunet.uu.net
Subject: What is circular polarization?
To: info-hams@ucsd.edu

Todd, N9MWB asks:

>The question I have is how do TV stations produce horizontal polarization
>when their antennas look like verticals?

The TV transmitting antennas I've seen up close are merely long lengths of pipe some 18" diameter closed on the top. They have slots cut at strategic positions and as they are horizontal slots hence the horizontal polarisation.

The pipe bolts directly onto the waveguide from the TX. Obviously there is some relationship between size of slot, position of slot and the frequency in use.

All pretty agricultural really but the net effect is just a big stack of dipoles.

Now what I want to know is why they do'nt fill up with water when it rains....

73 Trevor G3WQO AB5EU

Date: 18 May 93 06:19:54 EDT
From: sdd.hp.com!news.cs.indiana.edu!nsth.nh.ca!psinnth!psinnth!
arrl.org@network.UCSD.EDU
Subject: What is circular polarization?
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, jrbromley@joshua.intel.com (James Bromley~) writes:
>

>They may look like verticals, put they are really large pipes about a
>wavelength in circumference with vertical slots cut into them.
>Vertical slots radiate horizontally polarized waves (natch). The
>slots are excited through capacitors from a second pipe inside the
>first that acts as the inner conductor of a giant coaxial cable and
>is fed from the bottom of the antenna. The slots all radiate in
>phase and produce a fair amount of gain, particularly at UHF.

I'm surprised they actually make a coaxial cable. I would have thought they would just cut slots in a piece of waveguide. Waveguide normally has the advantage of much lower loss. Page 308 of the 1991 Microwave update shows how to build one out of WR-75 10 GHz waveguide. I've built the WR-90 version in the 1989 Microwave update, p 190-191, but don't know how it works yet... At least one has been used in Texas for mobile 10 GHz SSB. I also seem to recall Chuck, WB6IGP selling them.

Zack Lau KH6CP/1

Internet: zlau@arrl.org "Working" on 24 GHz SSB/CW gear

Operating Interests: 10 GHz CW/SSB/FM
80/40/20 CW
US Mail: c/o ARRL Lab
225 Main Street Station capability: QRP, 1.8 MHz to 10 GHz
Newington CT 06111 modes: CW/SSB/FM/packet
amtorg/audot
Phone (if you really have to): 203-666-1541

Date: Tue, 18 May 1993 18:48:05 +0000
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!torn!nott!
bnrgate!bnr.co.uk!uknet!warwick!qmw-dcs!qmw!demon!llondel.demon.co.uk!
dave@network.UCSD.EDU
To: info-hams@ucsd.edu

References <930514132117@nauvax.ucc.nau.edu>, <XVxm4B1w164w@jwt.oau.org>,
<1993May18.131516.20373@ultb.isc.rit.edu>.uk
Reply-To : dave@llondel.demon.co.uk
Subject : Re: What is circular polarization?

In article <1993May18.131516.20373@ultb.isc.rit.edu> cep4478@ultb.isc.rit.edu
(C.E. Piggott) writes:

>
> What is an example of an omni-directional, circularly polarized antenna?
> Maybe two antennas, a vertical and a halo, somehow phased? Wouldn't it
> change from right-hand to left-hand, depending on from which side you were
> looking at the antenna?

>
There is one which is fairly good at omni-directional circular - but I can't
remember the name of it at the moment :-(

Basically you have an arrangement of dipoles in a circle, with all
dipoles sloped at 45 degrees. The dipoles are all effectively on the
surface of a cylinder (a picture would describe this a lot better!)

To understand how it works, you need to look at the cylinder from the
side, where you will see the nearest dipole leaning at 45 degrees. Now,
the dipole on the far side of the cylinder is leaning at 45 degrees the
other way (as viewed from your side), thus forming an 'X' with the one
nearest you. With suitable phasing, this pair of dipoles can therefore
produce circular polarisation. As you walk round the cylinder, you will
again see a pair of dipoles in an 'X', so you must be radiating something
reasonably circular in that direction as well.....

No idea how well it actually works, I just saw it in a book once!

Dave

@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@ G4WRW @ GB7WRW.#41.GBR.EU AX25 @ You think *you* have problems? @
@ dave@llondel.demon.co.uk Internet @ What do you do if you *are* @
@ g4wrv@g4wrv.ampr.org Ampnet @ a paranoid android?? @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@

Date: Tue, 18 May 1993 23:06:56 GMT
From: sdd.hp.com!cs.utexas.edu!zaphod.mps.ohio-state.edu!howland.reston.ans.net!
agate!linus!linus.mitre.org!wralston.mitre.org!user@network.UCSD.EDU
To: info-hams@ucsd.edu

References <C76qon.5vC@news.cso.uiuc.edu>,
<1993May17.214122.22853@nntpd2.cxo.dec.com>,
<1993May18.140108.12869@ke4zv.uucp>itire.org
Subject : Re: Don't get ripped off by a G5RV

In article <1993May18.140108.12869@ke4zv.uucp>, gary@ke4zv.uucp (Gary
Coffman) wrote:

>
> In article <1993May17.214122.22853@nntpd2.cxo.dec.com>
little@nuts2u.enet.dec.com (nuts2u::little) writes:
> >
> >The SWR as measured at the transmitter will be less than 3:1 *because* of
> >the resistive losses in the coax. So although the SWR seems reasonable,
> >it's only because you are heating the coax feed line.
>
> Let's look at this a little more carefully.... [deleted] ...
> ...Coax cable loss is generally low enough at HF that VSWR losses aren't
> significant.

I've seen lot's of discussion of coax loss in this group, and agree with
the above statement, but I think an important point is being overlooked.
There is also loss in the antenna tuner as well - you don't have infinite Q
capacitors and inductors. I suspect that the antenna tuner is probably the
greatest source of loss in an untuned antenna system. I know my antenna
tuner gets pretty warm sometimes (and I _always_ run barefoot).

-- Bill, AI6E/1, wtr@mitre.org
* I babble too incoherently to speak for my employer *

Date: Tue, 18 May 1993 20:32:54 GMT
From: news.acns.nwu.edu!casbah.acns.nwu.edu!lapin@network.UCSD.EDU
To: info-hams@ucsd.edu

References <1993May18.140108.12869@ke4zv.uucp>,
<1993May18.155438.3685@nntpd2.cxo.dec.com>,
<1993May18.173951.11817@VFL.Paramax.COM>
Subject : Re: Don't get ripped off by a G5RV

In article <1993May18.173951.11817@VFL.Paramax.COM> rossi@VFL.Paramax.COM (Pete Rossi) writes:

>In article <1993May18.155438.3685@nntpd2.cxo.dec.com> little@nuts2u.enet.dec.com (nuts2u::little) writes:

...stuff deleted...

>>with the G5RV antenna under good propagation conditions. But don't suggest
>>that the antenna is a good performer simply because of a 59 report from a
>>DX station.

>

>A "cousin" to the multi-band G5RV is the multi-band 1/4 wave trap vertical or
>otherwise known as an "outdoor dummy load". People (include me) put these
>things up, ground mounted, over normal soil with only a short ground rod (no
>radials) and proceed to "work the world". They may be convinced that it is
>working great. Later they find out that over 1/2 of their transmitter power
>is heating up the ground!! Still they work all kinds of stuff and probably
>get lots and lots of 59 reports. So what? The antenna is still extremely
>inefficient. The only reason it appears to work may be band conditions or
>simply the other guy's ability to pull you out of the mud. If you have good
>propagation, almost any antenna will work to some degree.

...stuff deleted...

>

>=====

>Pete Rossi - WA3NNA

rossi@VFL.Paramax.COM

Has anyone else noticed that everyone gets 59 reports from DX stations?

Greg Lapin KD9AZ
glapin@nwu.edu

End of Info-Hams Digest V93 #603
